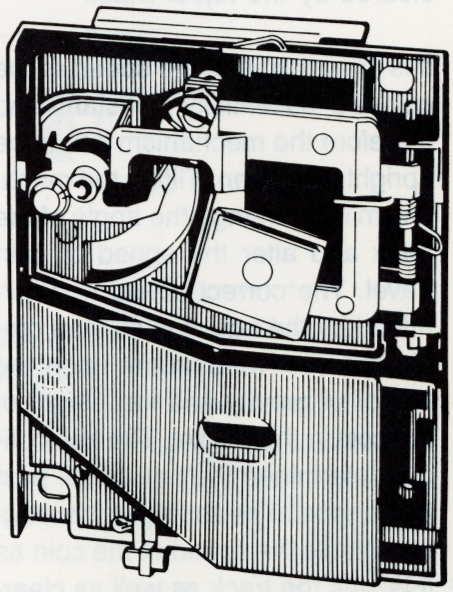
COIN CONTROLS

Gold Mech Coin Validator Instruction Manual

Quality Coin Validator for U.S. Quarters



Coin Control's most popular mechanical validator is the Gold Mech, designed for U.S. quarters. Each Gold Mech is designed to discriminate between coins based on metal content, thickness, diameter and weight.

Unlike validators which are not adjustable for optimum performance, Coin Controls' validators are individually set at the factory to accept the most "good" coins possible and reject the most "bad" coins possible.

Each coin validator from Coin Controls has special validation features which include:

- A check for oversized or bent coins.
- Three point coin diameter check.
- A coin weight check by a special balancing weight.
- A test for coin thickness by the distance between the magnet holder and the backplate.
- A metal test by a magnet which causes the induction of eddy currents within the coin and alters its speed according to metal content.

Every validator is also designed to keep players from receiving credit for games they haven't paid for. Special anti-fraud features include:

- Anti-penny flipping device which prevents pennies from being flipped up and over the separator and activating the microswitch as a "good" coin.
- Anti-stringing device which prevents players from using the same coin over and over to trip the microswitch.

HOW THE GOLD MECH WORKS

The Gold Mech coin validator is designed to require a minimum of maintenance and field adjustment. Coins are checked by diameter, thickness, weight and metal content.

The first check on the coin is at the entry slot, which prevents the entry of grossly oversized or bent coins. The next test is at the cradle. When the correct coin falls into the cradle, the cradle tips and the coin is delivered to the diameter stop and magnet check. Under diameter coins fall between the legs of the cradle and are deposited in the coin return cup. Over diameter coins are stopped by an adjustable pin on the over diameter stop. Underweight coins fail to tip the cradle and can be returned to the coin return cup by pressing the reject button.

Coins which are too thick will fail to pass between the magnet and the backplate of the mechanism and will be cleared by the magnet wiper when the reject button is actuated (Fig. 1).

The metal content of the coin is checked next using magnets. The use of magnets alters the speed of coins leaving the track. The speed is altered according to the metal content of the coin. This delay in the coin's speed is caused by the induction of eddy currents within the coin due to its passage through the magnetic field.

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Cupro-nickel is least affected by the magnetic field and leaves the runway faster than any other metal, followed by brass, bronze, copper and silver. Ferromagnetic coins such as iron, steel and nickel are stopped and held by the magnet and can be cleared by the reject wiper.

It is important that the speed of the coin be essentially constant and therefore the mechanism has to be upright and clean. Tilting the mechanism may change the angle of the track and alter the speed of coin travel. The correct speed is determined by the rate at which the cradle tips over (dependent upon the center of gravity and the height of the coin in the cradle). The track angle determines the rate of fall past the magnet. The setting of the magnet affects the speed of the coin as it leaves the track as well as clearance for the coin to pass.

Once the coin leaves the track at a certain velocity it follows a predictable trajectory which determines if the coin will fall into the accept or reject slot. An adjustable separator is used to deflect the falling coin to either the accept or reject slot.

CLEANING AND CARE

The magnet that is fitted to the mechanism should be kept clean from foreign particles. The magnet can be cleaned by swinging the gate open. Remove metal filings from the magnet by guiding the point of a screwdriver along the edges of the magnet, so that the filings cling to the screwdriver.

The mechanism can be cleaned by washing it in the dishwasher or immersing it in water and using a small brush to clean the mechanism. Rinse the mechanism with hot water and dry with compressed air.

Since the Gold Mech relies on coins passing the magnet at a constant speed, the rejector must be free of dirt and grease which may slow down coins. Do not lubricate the acceptor with oil as this slows down coins.

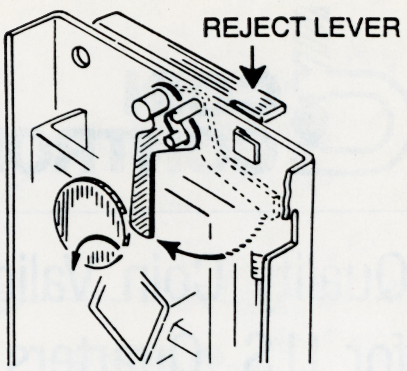


FIG. 1

ADJUSTMENT

The Gold Mech validators are factory adjusted for optimum performance. If more critical adjustments are desired, or if the unit has been disassembled, the following adjustment procedure is suggested. (Fig. 3)

1. Ensure that the mechanism is in an upright and level position.

2. Unscrew the slotted hex screw.

3. Place a new U.S. quarter in the mechanism. Do not use a worn coin as it may cause acceptance of "bad" coins. Turn the diameter adjustment clockwise until the coin falls into the cradle. The cradle should tip and the coin come to rest on the side of the magnet. Turn the slotted hex screw clockwise until the coin just clears the magnet. Give this screw a further 1/2 turn clockwise for optimum clearance and tighten the locknut. If the magnet is adjusted too far away from the coin, the magnet wiper may not remove a Canadian coin stuck to it and may possibly jam the wiper. Test the magnet setting with a bicentennial quarter since they are slightly wider than regular quarters.

4. Place the coin in the mechanism again to check that the cradle tips and that the over diameter stop just allows the coin to pass. Check with both new and well worn coins.

5. Loosen the separator adjustment screw. While testing the mech in its normal operating position, slightly move the separator right or left until desired acceptance of "good" coins and rejection of frauds is obtained. Tighten screw and test again.

   If the procedures for adjustment are not successful, check for worn, bent or damaged parts and replace where necessary.

COIN SWITCH

Coin Controls' base plate assembly incorporates a coin switch in two different spring tensions — identified by the color of the plastic at the wire's pivot point.

Red: Light tension — U.S. coins

White: Heavy tension — heavy foreign coins.

COIN PATH ADJUSTMENT FOR COIN SWITCH

The coin switch coin path in the base plate assembly has an "adjustable plate". This is comprised of two steel legs, the largest of which is fixed, the smaller of which protrudes into the coin switch coin path. The smaller leg is designed to be bent to maintain the coin in contact with the switch as it falls through the coin path and to produce an adequate pulse duration from the coin switch when a coin is accepted. If the leg is bent too far, closing the coin path, the coin will get stuck and not pass through. If the leg is not bent far enough to guide the coin over the switch, the switch may not always activate.

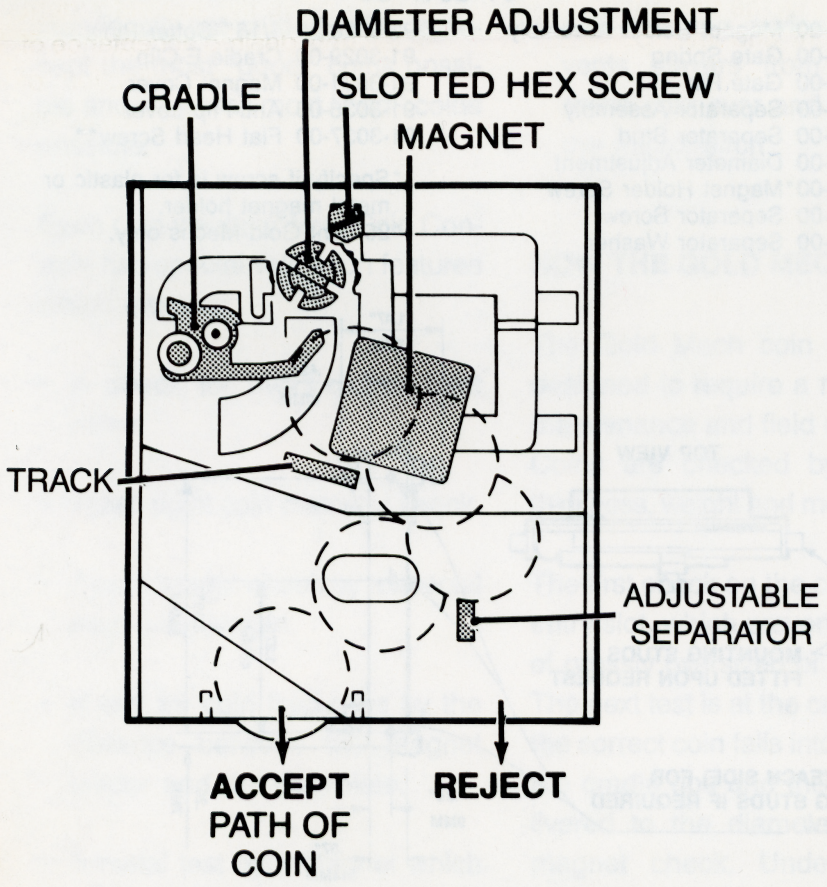
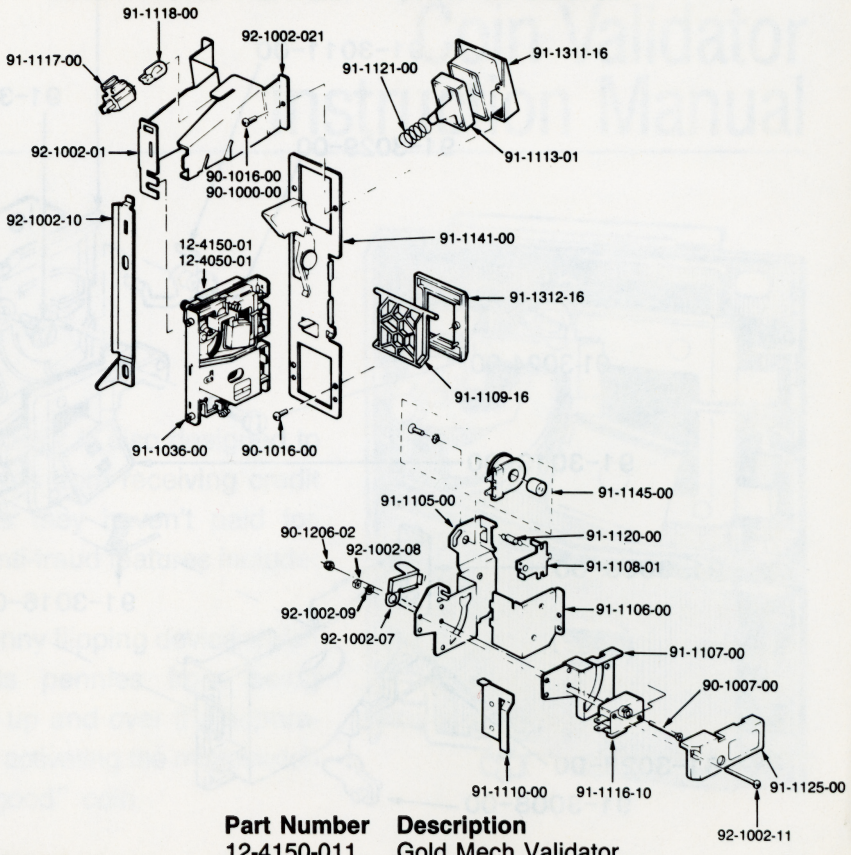


FIG. 3

BASE PLATE ASSEMBLY FOR COIN DOORS AND FRONT PLATES — SNAP-IN DESIGN



Part Number	Description
12-4150-011	Gold Mech Validator
90-1000-00	Zinc Bezel Screw*
90-1007-00	Microswitch Screw, Flat Head
90-1016-00	Nylon Bezel Screw
90-1206-02	Kep Nut, 4-40 Microswitch
91-1036-00	Mounting Studs
91-1105-00	Reject Cup, Side Plate
91-1106-00	Reject Cup, Base Plate
91-1107-00	Microswitch Bracket
91-1108-01	Lockout Flap U.S. 25¢
91-1109-16	Black Reject Flap
91-1110-00	Coin Adjustor
91-1113-01	Entry Reject Button, U.S. 25¢
91-1116-10	Microswitch, Red U.S. 25¢
91-1117-00	Lampholder
91-1118-00	Lamp Wedge Base 6 V
91-1120-00	Lockout Spring
91-1121-00	Entry Reject Button Spring
91-1125-00	Clear Plastic Microswitch Cover
91-1141-00	Base Plate w/Plastic Pivot Arm
91-1145-00	12 V DC Lockout Coil
91-1211-00	Silver Button Bezel
91-1212-00	Silver Reject Bezel
91-1311-16	Nylon Button Bezel
91-1312-16	Nylon Reject Bezel
91-2216-0110	Red Microswitch Assembly
92-1002-01	Lampside Bracket
92-1002-021	Coverside Bracket
92-1002-07	Snap-on Clip
92-1002-08	Elastic Locknut
92-1002-09	Snap-On Sleeve
92-1002-10	Hold Down Bracket
92-1002-11	Screw, Machine 4-40-1″ Pan Head

*For Zinc Bezel only.

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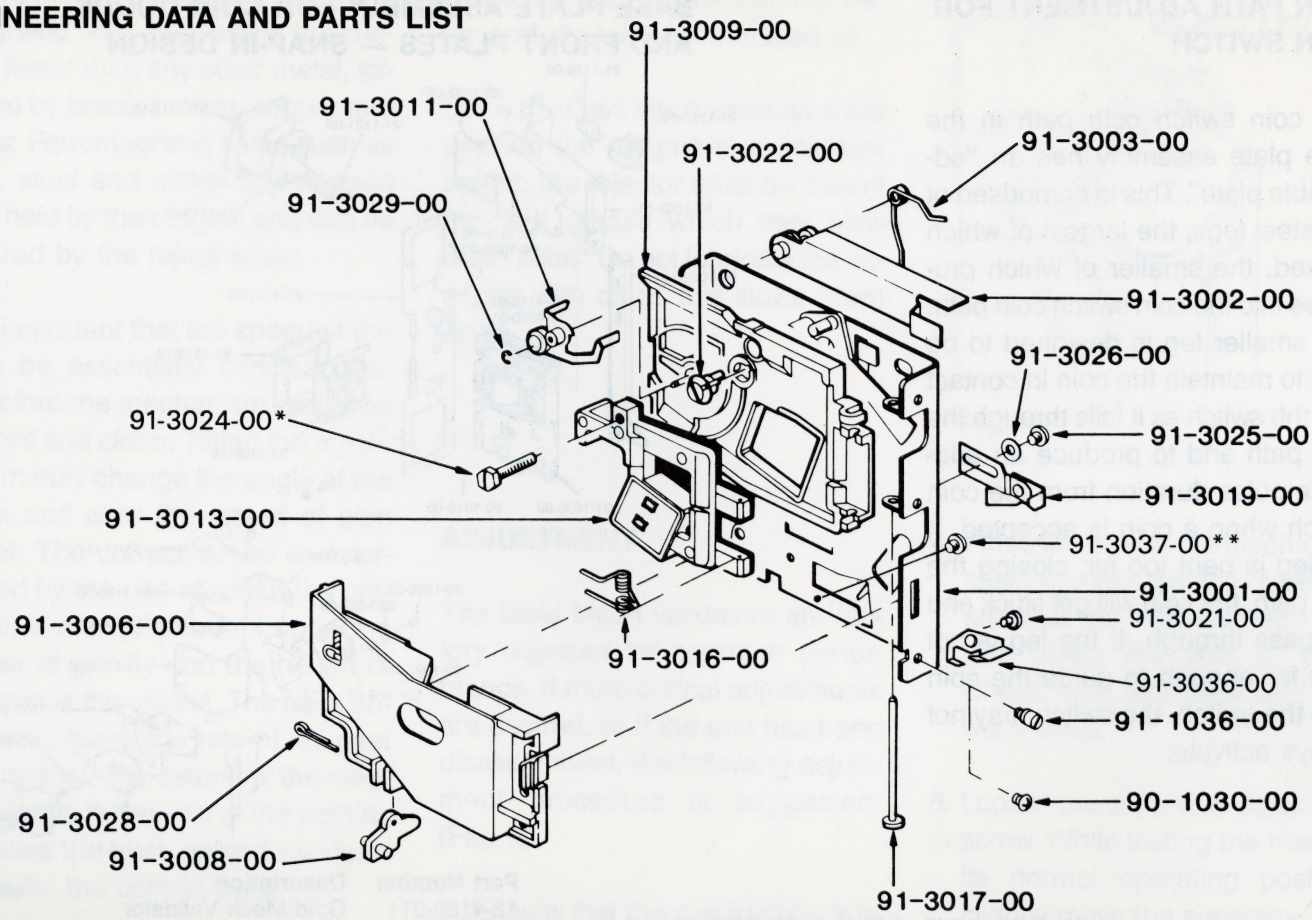
GOLD MECH
ENGINEERING DATA AND PARTS LIST

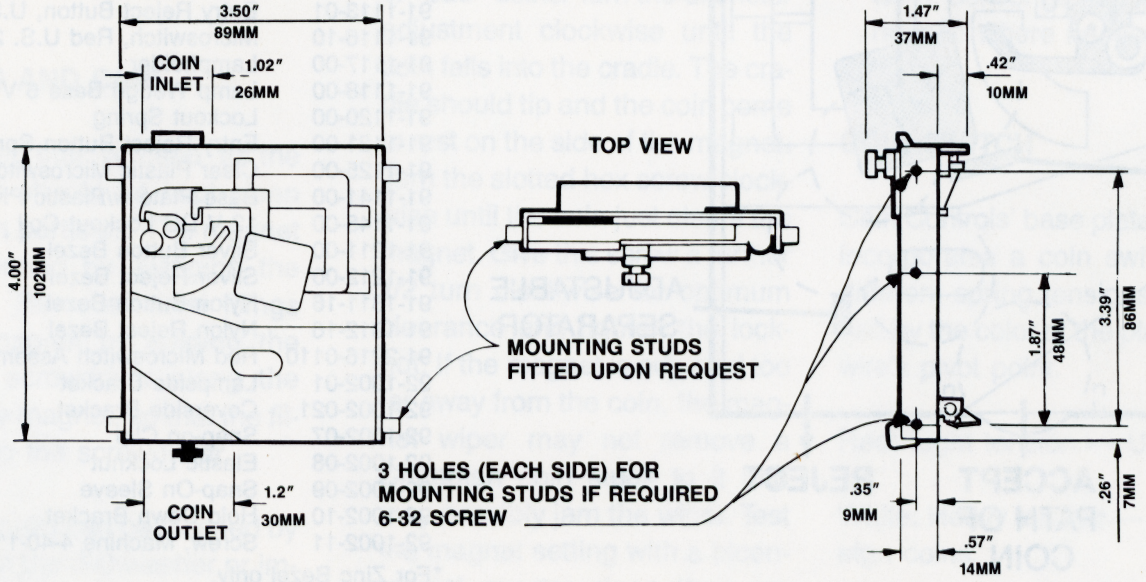


90-1030-00 Mounting Screw
91-1036-00 Mounting Stud
91-3001-00 Backplate Assembly
91-3003-00 Reject Lever Spring
91-3004-00 Reject Lever Plug Spacer
91-3006-00 Return Chute
91-3008-00 Anti-Stringing Device
91-3009-00 Gate Assembly
91-3011-00 Cradle Assembly

91-3013-00 Magnet Holder Assembly
91-3016-00 Gate Spring
91-3017-00 Gate Pin
91-3019-00 Separator Assembly
91-3021-00 Separator Stud
91-3022-00 Diameter Adjustment
91-3024-00* Magnet Holder Screw
91-3025-00 Separator Screw
91-3026-00 Separator Washer

91-3028-00 1/16″ Cotter Pin
91-3029-00 Cradle E-Clip
91-3031-00 Magnet Cover
91-3036-00 Anti-Flip Lever
91-3037-00 Flat Head Screw**

*Specify if screw is for plastic or metal magnet holder.
**25 cent Gold Mechs only.



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After 11/11/89 the area code will be (708).